

## SPRINGS, WELLS AND RUNNING WATER by GERSHOM BRADFORD

Since time out of mind, water has been a problem for man and Duxbury is still searching for a further supply.

When Myles Standish moved across the bay he built his house beside a spring. In Millbrook by Crab Island, there was and probably is, a fine spring known as Mendum's, but in the 1880's the boys called it Crystal Spring. It no doubt served the ancient Southworth cottage nearby.

As the population increased and their dwellings at inconvenient distances from springs and brooks, they dug wells. The first were known as "shallow" and the water brought up by a wellsweep. This device consisted of a long pole so pivoted as to operate in a vertical plane. The long end extended over the well with a lanyard and bucket. The pivoting point was, say, three or four feet high, set between two posts. The inner end was weighted to balance the heavier outer section. This made it easier to raise and lower the bucket. We recall seeing one up in Scituate way long ago.

The desire for deeper wells and better water became widespread and digging and walling them up demanded both skill and ingenuity. Beginning the lower tiers of an 18-20 foot well was no work for a man afflicted with claustrophobia.

We were familiar with a good example of a walled up well in the late 1880's and on. It belonged to our neighbors, the Spencer Burgesses, now the home of Alvah Boynton, Esq., on Cranberry Lane, off Harrison St.

This well was about four feet in diameter, walled up to a little above ground level. Upon this rested a box in a well house, conveniently attached to the main building. The box served two purposes; to keep out contamination and to support a windlass to raise and lower the bucket. The windlass consisted of a roller or drum, about eight inches in diameter with a bearing at each end, one of which was provided with a crank. A rope attached to the bucket, "oaken, of course," with plenty of turns around the roller to allow the bucket to reach the bottom. We believe it was from 15-18 feet deep.

The housewife, in this case Mrs. Burgess, desiring to renew her kitchen supply would wind up the bucket, and in summer, remove the milk and butter from its cool storage below, place them on a convenient shelf, send the bucket down, striking the water it would roll on its side and fill. She then would wind it up, tip and pour the contents into an inclined trough leading to her waiting kitchen bucket. The milk and butter would then be sent down to refrigerate in the cool depths.

As in other things convenience made its demands, windlasses gave way to pumps. Our first association with a pump was as a small boy before 1890 in the present home of Mrs. Thomas Lanman on Harrison St. It was a log pump. We understand that a selected pine log or trunk, was sawed lengthwise in half. A semi-circular channel was worked out along the inner center-line of each half. This channel was about four inches wide and two inches deep. When this work was accurately completed, the halves were put together and strapped. There then was a four inch cylindrical chamber running throughout the length of the log. This was highly skilled craftsmanship, but these men also built ships that were not supposed to leak.

The log was ended up and eased down the well. Naturally this was done before that part of the house was built. The pump consisted of an upper and lower valve, called boxes. They were of rock maple or a wood with little expansion in water. A hole through the center allowed the passage of water upward, with a leather flapper valve on top to prevent its going back. Around each box was a sole leather "skirt" secured with copper tacks. This skirt acted the part of piston rings in a car's engine. The lower box had a bale by which (with a rod and a hook) it could be withdrawn for repair. The upper box, similar in construction, was fitted to a short shaft and pump handle.

When the temperature went far below freezing, a bucket of priming water was placed in the warm living room. The handle of the pump was raised high, allowing the upper box to reach a by-pass in the cylinder wall through which the water ran down the well. In the morning a few quick strokes with priming water

put the pump again in operation. The boxes were made by Lot Soule in the present home of Mrs. Rollins Maxwell on Powder Point Avenue.

After the Civil War business was dull in Duxbury and many young men began to leave for wider fields to make their fortunes, some succeeded. Later in life with a degree of prosperity, they returned home for the summer, rehabilitating old houses or building new ones. They had become accustomed to the amenities of metropolitan life and had left the pump behind them. So the "driven well" and windmill came to Duxbury and the year-rounders were ready for the change.

The driven well was, and is, a simple device. A section of 1 1/2 inch pipe, about 30 inches long, fitted with a sharp point and provided with staggered poles for the entrance of water. The point was threaded to a 10-foot length of pipe and driven down by a falling weight. As the depth increased another 10-foot length was added. When the point was well below the water table a pit was dug and walled. In this a pump was installed; it was fitted with a pet cock to drain the pipe on cold nights.

As no one desired to work a pump, a windmill tower was erected to perform this duty. The wheel of the mill consisted of many blades or vanes, so set that when at right angles to the wind they caused the wheel to spin in proportion with the force of the breeze.

A tail held the wheel into the wind. When desired it was thrown "out of gear" by a lever at the foot of the tower. This swung the wheel parallel to the wind resulting in no revolutions and held so by the tail's directive power.

The mill's pump usually sent the water to a tank in the attic which was connected with the plumbing system of the house and Duxbury had running water - and plumbing bills.

Convenient as these water works were there were disadvantages: There was need of attention. When the tank became full, with the windmill still running, the overflow, in winter, might (and has) shrouded the house in ice. And the mill required grease aloft. This was inconvenient for ladies with no men in the house. A delinquency in this duty was quickly advertised to the neighborhood by the raucous squawks of the distressed mill.

By the early 1900's Duxbury's sky line, as seen from the bay, looked like a new Holland with an unbelievable number of windmills spinning above the tree tops. They were efficient machines and the power was cheap; all that was needed was a breeze. If the demands were not too great there was seldom a shortage of water.

We can be corrected in this, but there is a vague memory that the funds for the town water were provided by Day & Company only a few days before the outbreak of World War I in Europe, which was fortunate financially.

It is believed that William "Bill" Campbell was our first full-fledged plumber. His shop was in an old weather-beaten building on St. George St., overhanging the mill pond, back of the old Cable Office. One of his assistants was Arthur Sprague, just back from a China voyage in the ship William H. Connor. Bill Campbell's father had a tin shop opposite the Cable Office on Washington St.

With the faucets of our principal streets flowing freely the day of the windmill was over. They were picturesque with their busy wheels at work, but on the other hand there were no more icy climbs aloft and they no longer disturbed the serenity of the community with their strident cries for grease.